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U.S. Rural electrification administration.

COUNTING VITAMINS
BE ALERT TO THE HEALTH
REQUIREMENTS OF THE FAMILY

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Home Economist REA

U. S. Department of Agriculture

Promote a happier, healthier family with
foods which are rich in vitamins.

The National Research Council recommends
the following allowances.

1942

One milligram of Vitamin B₁ equals 333 International Units

One milligram of Vitamin C, equals 20 International Units

	: International Units	Miligrams
	: A : B : C : D	: B ₂ OR G
MAN		
Moderately active	: 5,000: 600: 1,500: 400	: 2.7
Very active	: 5,000: 766: 1,500: 400	: 3.3
Sedentary	: 5,000: 500: 1,500: 400	: 2.2
WOMAN		
Moderately active	: 5,000: 500: 1,400: 400	: 2.2
Very active	: 5,000: 600: 1,400: 400	: 2.7
Sedentary	: 5,000: 400: 1,400: 400	: 1.8
INFANT UNDER ONE	: 1,500: 133: 600: 400 to 800	: 0.6
CHILD 1 to 3	: 2,000: 200: 700: 400	: 0.9
CHILD 4 to 6	: 2,500: 267: 1,000: 400	: 1.2
CHILD 7 to 9	: 3,500: 333: 1,200: 400	: 1.5
CHILD 10 to 12	: 4,500: 400: 1,500: 400	: 1.8
GIRL 13 to 15	: 5,000: 467: 1,600: 400	: 2.0
GIRL 16 to 20	: 5,000: 400: 1,600: 400	: 1.8
BOY 13 to 15	: 5,000: 533: 1,800: 400	: 2.4
BOY 16 to 20	: 6,000: 666: 2,000: 400 to 800	: 3.0
PREGNANCY	: 6,000: 660: 2,000: 400 to 800	: 2.5
NURSING MOTHER	: 8,000: 766: 3,000: 400 to 800	: 3.0

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FUEL AND ENERGY FOODS

THE BODY NEEDS ENERGY FOODS TO SUPPLY THE FUEL FOR THE BODY ACTIVITIES.

SUGARS AND STARCHES.

- a. SUGARS provided not only by TABLE, COOKING SUGARS but by SYRUPS, HONEY, FRESH, DRIED FRUITS.
- b. STARCHES are found in CEREALS, BREADS, VEGETABLES
- c. CARBOHYDRATES, ENERGY FOR PHYSICAL ACTIVITY. Children need a liberal amount as they burn up energy so rapidly.
- d. Sweets and starches should not be allowed to the extent that the appetite is spoiled for the more protective foods.

FATS. LIKE THE SUGARS AND STARCHES FAT IS NEEDED FOR ENERGY.

- a. FATS are found in CREAM, BUTTER, MEAT FATS and VEGETABLE OILS.
- b. VITAMIN A, found in butter and cream. A also found in butter substitutes.
- VITAMIN B₁, to be found in quantity in Peanut Butter. Contains PROTEIN and FATS.
- VITAMIN B₁, Nuts avocados, ripe olives. FATS

FLUIDS. WATER, MILK, FRUIT JUICES OTHER BEVERAGES.

- a. BODY requirements to aid elimination of waste. Influence the body temperature. Milk and fruit juices are preferable to the stimulants of coffee and tea, and these are usually prohibited for children. Artificial beverages contain little or no VITAMIN content.

HIDDEN HUNGER - VITAMINS and MINERALS constitute the quality of the diet. When they are lacking, malnutrition is the result. Hollow hunger or insufficient quantity of food.

MALNUTRITION usually due to ignorance of food values.

This may be found in the wealthiest as well as in the families with restricted incomes.

BUILDING AND PROTECTIVE FOODS

MILK. Supplies growth factors

- a. PROTEIN - develops body tissue.
- b. MINERALS: CALCIUM: PHOSPHORUS: for bones, teeth.
- c. FATS: MILK SUGAR: for energy.
- d. VITAMIN A - B - G - in liberal amounts.
- e. VITAMIN C - D - IN SMALL AMOUNTS.

(especially treated milk is rich in D and is called Vitamin D Milk.)

FRESH FRUITS. B₁ - G - C - Yellow fruits contain carotene, vegetable form of Vitamin A.

- a. Minerals - provide alkaline reserves.
- b. Sugar - wholesome form for energy.
- c. Organic acids - aid appetite and digestion.
- d. Cellulose - promote normal elimination.
- e. Pectin - counteract intestinal infection.

VEGETABLES - NEEDED for red blood cells. Green leafy vegetables sources of iron. Oxalic acid contained in some vegetables such as spinach, rhubarb prevents utilization of calcium by body.

- a. B₁ - C - G - niacin in varying amounts. Yellow and dark green vegetables are better sources of pro-vitamin A or carotene.
- b. CELLULOSE - provides regulatory bulk.

CEREALS. PHOSPHORUS, IRON, MINERALS. Fuel, energy.

- a. VITAMIN B. Whole grain cereals natural source. Highly milled cereals are deficient in these elements. Many mfgs. now place on cereal boxes, flour, etc. "enriched" meaning they have restored the elements extracted in milling.
- b. CARBOHYDRATES. Important in the diet especially in diet of children. Easily digested.
- c. PROTEIN. In varying amounts.

EGGS, MEAT, FISH, CHEESE

- a. Highly valuable source of PROTEIN, IRON, PHOSPHORUS, VITAMINS A, B₁, G, D, NIACIN.
- b. MEAT, FISH, furnish PROTEIN, VITAMINS B₁, G, NIACIN, PHOSPHORUS, IRON. FISH LIVER A, D.

CHEESE supplies PROTEIN, CALCIUM, A, G.

SOY BEANS - PROTEIN, A, B₁, G. CALCIUM

WHAT FOODS DO

FOOD SUBSTANCES CLASSIFIED AS, PROTEIN, CARBOHYDRATES, FATS, MINERALS and VITAMINS. EACH CONTRIBUTES ITS OWN SPECIAL PROPERTIES FOR USE BY THE BODY, AND THE DIFFERENT FOODS WILL PERFORM THEIR OWN PARTICULAR FUNCTION

1. BODY BUILDING FOODS.

Protein; minerals, including calcium, iron, phosphorus and other minerals needed in smaller amounts such as water.

2. ENERGY GIVING FOODS.

CARBOHYDRATES, (include starches and sugars)
Fats.

3. PROTECTIVE FOODS.

Minerals, water and vitamins. (protect the body against certain diseases and regulate body processes.)

These last factors, vitamins, are essential to growth reproduction and maintenance of health. Lack leads to certain diseases.

VITAMIN A (fore-runner in plants, carotene or pro-vitamin A which the body can transform into actual vitamin A). Promotes growth, protects vision, aids resistance to infection.

VITAMIN B (thiamin) Stimulates appetite. Protects nervous system. Promotes growth.

VITAMIN G (known also as riboflavin (B_2)) Prevents certain skin and eye disorders. Necessary for cell function. Essential to health and vigor at all ages.

VITAMIN C (ascorbic acid) Prevents and cures scurvy. Vital to health of gums, teeth, bones and body tissue. Stimulates appetite. Increases resistance to disease.

VITAMIN P (citrin) Controls capillary fragility.

VITAMIN D Prevents rickets. Aids healthy bone and tooth formation.

CANNING IN THE ROASTER OR ELECTRIC OVEN.

THE OVEN OR ROASTER CANNING IS PREFERABLE FOR PROCESSING fruits and vegetables which are acid.

Require canning at boiling temperature only. Texture, color and flavor are of finer quality in the finished product. (Because of the even controlled heat.)

EQUIPMENT- Oven or Roaster with even controlled heat.

Preparation- Exactly as for any cold or hot pack.

- a. Wash jars well in hot, soapy water.
- Scald jars. Deep well cooker or roaster excellent for this.
- b. Pick vegetables after sun goes down. Select even sizes for nicer packs. Called "grading". Store in refrigerator till morning. Can only fresh, firm products. Do not can overripe fruits or vegetables.
- c. Prepare according to favorite recipe.
- d. Pack product into clean jar.
- e. Add liquid.

Syrup. Syrup for fruits to within $1\frac{1}{2}$ inch of top, when fruit is packed cold. $\frac{1}{2}$ inch from top when packed hot.

Brine. Brine made of combination sugar and salt.

- f. Place sterilized cap on jar. SCREW TOP FIRMLY INTO PLACE.
- g. PLACE JARS ON RACKS IN COLD OVEN OR ROASTER. Be alert to their not touching each other or sides of oven or roaster.
- h. Turn switch to 250° using lower unit only for heat. Higher temperature will cause boiling in the jars thus loosening the liquid. Process required length of time.
- i. Remove from oven or roaster. Place on several thicknesses of cloth. DO NOT FURTHER TIGHTEN TOPS AS THEY ARE ALREADY SEALED. DO NOT TURN UPSIDE DOWN. STORE AWAY WHEN COOL.

VITAMIN A

PROMOTES BUOYANT HEALTH. BUILDS UP RESISTANCE TO INFECTION. VITAL TO GOOD EYESIGHT AND HEALTH OF TEETH. A "BEAUTY" VITAMIN IMPORTANT TO HEALTH OF SKIN, HAIR AND NAILS.

	Portion	Units	Calories
Apricots, canned	2 halves with juice	1,000	60
Apricots, fresh	1 large	1,400	20
Asparagus, canned tips	1 cup	1,000	50
Beet greens	$\frac{1}{2}$ cup	12,000	30
Beans, cooked string	1 cup	775	50
Broccoli, steamed	1 cup	3,000	50
Butter	1 pat $1\frac{1}{4} \times 1\frac{1}{4} \times \frac{1}{4}$	200	50
Carrots, cooked fresh	5	5,000	100
Cheese, American	1" cube	300	85
Cheese, soft creamed	1 tablespoon	340	50
Cheese, roquefort	1" cube	850	75
Cod liver oil	1 tablespoon	3,585	100
Cream, light	1 tablespoon	150	30
Dandelion greens, cooked	1 cup	16,000	40
Egg	1 medium	700	75
Escarole	4 leaves	10,000	20
Kale, cooked	1 cup	14,000	35
Liver, beef or veal	$\frac{1}{4}$ pound	11,500	150
Milk, whole	1 glass	385	160
Parsley	4 stems	1,000	
Peppers, green	1 pepper	400	20
Peppers, red	1 pepper	1,600	20
Peaches, yellow fresh	1 medium	1,500	50
Peas, green cooked	$\frac{1}{2}$ cup	500	50
Potatoes, sweet in skin	1 large	3,100	200
Spinach, chopped cooked	$\frac{1}{2}$ cup	9,250	20
Squash, hubbard cooked	$\frac{1}{2}$ cup	4,300	50
Swiss chard, shredded	$\frac{1}{2}$ cup	12,000	25
Tomatoes, fresh	1 medium	900	25
Tomatoes, canned	$\frac{1}{2}$ cup	725	25
Turnip greens, cooked	$\frac{1}{2}$ cup	4,275	30

VITAMIN B (THIAMIN)

THE "PEPPER UPPERS". ENERGY SPARK. VITAL TO HEALTH OF NERVOUS SYSTEM. MUSCLE TONER AND KEEPS INTESTINES FUNCTIONING. HELPFUL IN TREATMENT OF ALCOHOLIC NEURITIS.

Food	Portion	Units	Calories
Beans, baked with pork	1 cup	150	240
Beans, green lima, fresh	$\frac{1}{2}$ cup	45	100
Beans, soy, yellow dried	$\frac{1}{2}$ cup	250	350
Beef, rib roast	$\frac{1}{4}$ pound	75	240
Bread, whole wheat	1 slice	25	75
Bread, white enriched	1 slice	25	75
Buttermilk	1 glass	15	80
Chicken	$\frac{1}{4}$ pound	75	110
Liver, beef or veal	$\frac{1}{4}$ pound	130	150
Endive	3 stalks	70	25
Egg	1 medium	15	75
Ham, smoked lean	$\frac{1}{4}$ pound	500	300
Kidney, beef or veal	$\frac{1}{2}$ cup	100	125
Lamb, roast leg	$\frac{1}{4}$ pound	110	220
Milk, whole	1 glass	30	160
Oat meal, whole grain	$\frac{1}{2}$ cup	150	75
Peas, fresh cooked	$\frac{1}{2}$ cup	75	50
Potatoes, white	1 medium	25	100
Pork loin, lean	$\frac{1}{4}$ pound	525	280
Tomatoes, fresh	1 medium	40	25
Tomato juice, canned	1 glass	35	50
Veal	$\frac{1}{4}$ pound	100	170
Wheat germ	1 tablespoon	150	30
Wheat, shredded	1 biscuit	15	100
Yeast, baker's compressed	1 cake	100	
Yeast, baker's dried	1 cake	70	
Yeast, brewer's fresh	1 cake	225	
Yeast, brewer's dried	1 cake	200	

Vitamin B requirements are based on the body activity. The more active the greater the requirement.

SIGNS OF MALNUTRITION

LISTLESSNESS, NERVOUS, FRETFUL. Tires easily
and lacks mental and physical endurance.
FLABBY muscles, poor teeth, slouchy posture.
NEVER REALLY SICK, NEVER REALLY WELL.

FAILURE TO GAIN WEIGHT POSSIBLY THE MOST
COMMON SIGN.

FLABBY, FAT PERSON MAY HAVE HOLLOW HUNGER. If
the symptoms are lassitude, fatigue and the
same symptoms listed above.

CORRECTING MALNUTRITION-HIDDEN AND HOLLOW HUNGER.

Should both receive special attention and
an understanding of the VITAMIN AND CALORIE
needs of the body.

VITAMIN C (ASCORBIC ACID)

BUILDS UP RESISTANCE TO INFECTION. MAKES BLOOD VESSELS STRONG. KEEPS ARTERIES YOUNG. NECESSARY FOR STRONG BONES, GOOD TEETH, HEALTHY GUMS. AIDS IN HEALING.

Food	Portion	Units	Calories
Apples, raw	1 large	200	100
Avocado	$\frac{1}{2}$ medium	300	200
Beet greens, cooked	$\frac{1}{2}$ cup	320	30
Brussels sprouts	5 sprouts	250	50
Cabbage, green	$\frac{1}{2}$ cup	175	10
Cantaloupe	$\frac{1}{2}$ melon	600	50
Cauliflower, cooked	1 small head	1,600	100
Cucumber	1-10" long	950	50
Currants, fresh	1 cup	365	65
Endive	3 stalks	425	50
Grapefruit	$\frac{1}{2}$ small	1,200	50
Grapefruit juice canned unsweetened	$\frac{1}{2}$ cup	700	50
Grapefruit juice, fresh	$\frac{1}{2}$ glass	850	50
Lemon	1	600	30
Orange juice, fresh	$\frac{1}{2}$ glass	600	55
Orange	1 large	1,200	100
Parsley	4 stems	220	
Peas, green cooked	$\frac{1}{2}$ cup	150	50
Pineapple juice, canned	$\frac{1}{2}$ cup	350	65
Pineapple, canned	1 slice with juice	100	50
Potato baked	1 medium	130	100
Potato boiled	1 medium	65	100
Potato mashed	$\frac{1}{2}$ cup	80	100
Peppers, green	1 medium	1,400	20
Raspberries, fresh	$\frac{1}{2}$ cup	325	50
Rutabaga, cooked	$\frac{1}{2}$ cup	280	40
Sauerkraut	1 cup packed	300	40
Strawberries	1 cup	975	80
Spinach, cooked	$\frac{1}{2}$ cup	325	20
Tangerine	1	500	50
Tomatoes, fresh	1 average	600	20
Tomatoes, canned	$\frac{1}{2}$ cup	400	25
Tomato juice	$\frac{1}{2}$ cup	300	25
Turnip greens, cooked	$\frac{1}{2}$ cup	200	25
Watercress	$\frac{1}{2}$ bunch	450	10
Watermelon	1 slice 3/4" thick 6" diam.	450	100

CANNING IN ELECTRIC ROASTER OR RANGE. COOL, EASY, BECAUSE OF
AUTOMATIC HEAT CONTROL

	CANNING	TIME	TABLE	OVEN 250°
APPLES	: Wash, pare, core, cut in pieces.	Drop in :	time in	
	: slightly salted water for 5 minutes.	:	minutes	
	: Pack, add syrup. Or boil 3 minutes in	:	75 minutes	
	: syrup. Pack. Add Syrup.	:	1 hour 15 minutes	
CURRANTS	: Wash, stem, pack.	Add syrup or water.	:	
PEACHES	: PEACHES	Wash, place in soda bath, rinse, pack,	1 hour 8 minutes	
FIGS		: add syrup.	1 hour 30 minutes	
QUINCES	: Ripe Pears, pare, halve, slice, precook	:		
PEARS	: 5 minutes in syrup. Pack.	Add syrup.	1 hour 15 minutes	
RHUBARB	: Wash, cut into pieces.	Pack.	Add syrup.	1 hour 8 minutes
TOMATOES	: Scald 1 minute, cold dip 1 minute. Peel,	quarter, pack.	1 hour 15 minutes	
	: DO NOT PEEL. COVER WITH JUICE FROM			
	: QUARTERED FRUIT.			
Tomato Pulp or	: Irregular or undersized. Cook 15 minutes :	1 hour 15 minutes		
Puree	: Press through sieve. Pack.			

VITAMIN D

Essential for proper development of bones, teeth, and prevents rickets. Sunlight, natural source.

During winter months fish oils or Vitamin D concentrates are essential to growing children and expectant mothers.

Enriched milk can be procured with Vitamin D now added by several methods and is called Vitamin D milk. Young children should have cod liver oil even when Vitamin D milk is given.

NICOTINIC ACID

Pellagra cure. Also need more Vitamin B₁, riboflavin, Vitamin A, calcium, iron, and better quality protein are needed. Sources of nicotinic acid are milk, green vegetables, liver, kidney, fish muscle meats and dried yeast.

VITAMIN E

Wheat germ oil, green leafy vegetables. Helpful in some cases of sterility and in preventing miscarriage. Mixed diet contains sufficient Vitamin E, as a rule.

VITAMIN K

Anti-hemorrhagic vitamin, normal clotting of blood. Is used in pure form in emergency cases with good results.

VITAMIN B₂ or G - (RIBOFLAVIN)
 EXTENDS PRIME OF LIFE. KEEPS ONE YOUNG. HEALTH OF
 EYES, SKIN, HAIR. GROWTH AND HEALTH OF ALL AGES.

Food	Portion	Miligrams	Calories
Beef, round lean	$\frac{1}{4}$ pound	.30	240
Beets	4 - 2" dia.	.33	100
Beet greens, cooked	$\frac{1}{2}$ cup	.75	30
Beans, lima cooked	$\frac{1}{2}$ cup	.24	100
Broccoli, cooked	1 cup	.45	50
Buttermilk	1 glass	.23	80
Cantaloupe	$\frac{1}{4}$ melon	.24	50
Cauliflower, cooked	1 small head	.60	100
Egg	1 medium	.24	75
Kale, cooked	1 cup	.45	35
Kidney	$\frac{1}{4}$ pound	2.70	150
Lamb	$\frac{1}{4}$ pound	.30	220
Liver, beef, veal	$\frac{1}{8}$ pound	3.38	150
Milk, whole	1 glass	.24	160
Milk, skim	1 glass	.24	80
Oysters	4 large	.45	50
Peas, green cooked	$\frac{1}{2}$ cup	.30	50
Pork, lean	$\frac{1}{4}$ pound	.33	280
Potatoes, sweet	1 medium	.19	200
Potatoes, white	1 medium	.10	100
Spinach, cooked	$\frac{1}{2}$ cup	.24	20
Salmon, red canned	$\frac{1}{2}$ cup	.19	100
Sweet Breads	$\frac{1}{4}$ pound	.90	200
Turnip greens, cooked	$\frac{1}{2}$ cup	.79	30
Veal	$\frac{1}{4}$ pound	.40	170
Wheat germ	1 tablespoon	.10	30
Yeast, bakers			
compressed	1 cake $\frac{1}{2}$ oz.	1.40	20
Yeast, bakers dried	1 cake $\frac{1}{2}$ oz.	.50	25
Yeast, brewers fresh	1 cake $\frac{1}{2}$ oz.	.85	20
Yeast, brewers dried	1 cake $\frac{1}{2}$ oz.	.40	25